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Mikio Miyake

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CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC
1420 FIFTH AVENUE
SUITE 2800
SEATTLE, WA 98101-2347

EXAMINER

KIANNI, KAVEH C

ART UNIT

PAPER NUMBER

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MAIL DATE

DELIVERY MODE

07/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Allowable Subject Matter

Claim 26 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious a base section of the end having the male convex shape is continued to an end edge of an annular step which is formed to have a diameter reduced in a radial direction of the ferrule, and a base section of the end having the female concave shape is continued to an end edge of an annular step which is formed to have a diameter reduced in a radial direction at an open end of the ferrule in combination with the rest of the limitations of the base claim. Claims 27-32 are allowed in virtue of dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

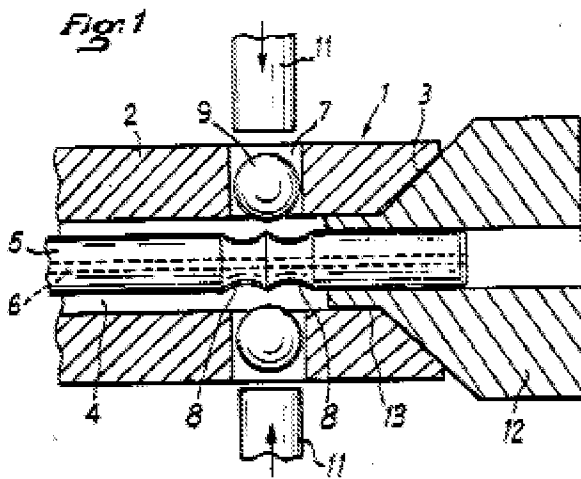
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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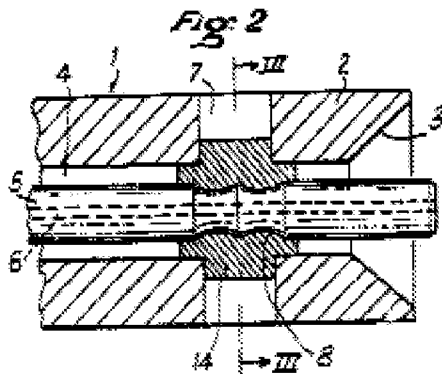
examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cartier (US 4767177).

Cartier teaches a pair of ferrules used for an optical fiber connector (shown in at least fig. 10, items 1 and 12), the pair of ferrules 1 comprising:



a first ferrule which has an optical fiber-inserting hole and an end portion (see col. 5, 4th parag.); and a second ferrule which has an optical fiber-inserting hole and an end portion (shown in at least fig. 1, items 2 and 3),
 said optical fiber-inserting hole of the second ferrule is substantially the same diameter as the optical fiber-inserting hole of the first ferrule and is arranged opposingly to the first ferrule so that the optical fiber-inserting hole of the second ferrule is positioned coaxially with respect to the optical fiber-inserting hole of the first ferrule (shown in at least fig. 2, ferrules 2 and 3 having the same optical fiber insertion diameter),
 wherein:



the end portion of the first ferrule is opposed to the second ferrule, and has a male convex shape extending to the end of the first ferrule end portion (see at least fig. 2), and the end portion of the second ferrule is opposed to the first ferrule, and has a female concave shape provided with a fitting section for receiving the end portion of the male convex shape while making tight contact therewith (see fig. 2 and 1).

wherein each of the first and second ferrules is made of metal (see col. 1, 3rd parag.); wherein each of the first and second ferrules is made of stainless steel; wherein each of the first and second ferrules is produced by an electroforming method (not given patentable weight for process used to obtain the ferrule).

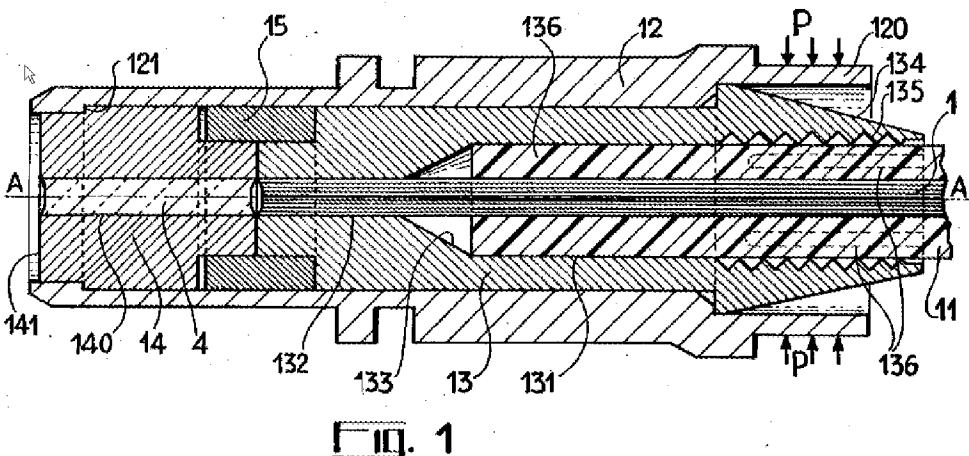
However, Cartier does not specifically teach the above limitations in a single embodiment and that the above convex shape part of the connector is male and has an angle of depression of 20.degree. to 80.degree and that the material of the ferrule is nickel alloy. It would have been obvious to a an ordinary skilled I in the art when the invention was made to modify an embodiment of Cartier by combining it with its second/another embodiment in which they are closely compatible and as a matter of desired design to have the angle range such as 20 degree to 80 degree and that the metallic ferrule as matter of design choice be nickel and/or steel alloy since such shape

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provide longer duration without reducing in thermal and mechanical property in high temperature and humidity circumstances and being able to efficiently align male and female ferrules (see col. 1).

Claims 1 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouygues et al. (US 4139260).

Bouygues teaches a pair of ferrule used for an optical fiber connector (shown in at least fig.1, see at least abstract and col. 2, lines 43-64);



a first ferrule which has an optical fiber-inserting hole and an end portion (see col. 5, 4th parag.); and a second ferrule which has an optical fiber-inserting hole and an end portion (shown in at least fig. 1, items 2 and 3),

said optical fiber-inserting hole of the second ferrule is substantially the same diameter as the optical fiber-inserting hole of the first ferrule and is arranged opposingly to the first ferrule so that the optical fiber-inserting hole of the second ferrule is positioned coaxially with respect to the optical fiber-inserting hole of the first ferrule (shown in at least fig. 2, ferrules 2 and 3 having the same optical fiber insertion diameter),

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wherein:

the end portion of the first ferrule is opposed to the second ferrule, and has a male convex shape extending to the end of the first ferrule end portion (see at least fig. 1 and 3), and the end portion of the second ferrule, which is opposed to the first ferrule, has a female concave shape provided with a fitting section for receiving the end having the convex shape while making tight contact therewith (shown in at least fig. 1, items 13 and conical item 133); that wherein each of the convex/concave shape has one of a conical/spheroidal/hemispherical shape (see fig. 1); wherein each of the first and second ferrules is produced by an electroforming method (not given patentable weight for process used to obtain the ferrule).

However, Bouygues does not specifically state that the above convex shape part of the connector is male and has an angle of depression of 20.degree. to 80.degree. and that the material of the ferrule is metal/stainless-steel/nickel -alloy. It is obvious/well-known to those of ordinary skill in the art when the invention was made that matching shapes is being inserted into the a segment counterpart is a male and that it would have been obvious to a person of ordinary skill in the art when the invention was made as a matter of desired design to have the angle range such as 20 degree to 80 degree and that the ferrule material to be extremely conventional metals such as nickel and/or steel alloy since such shape provide longer duration without reducing in thermal and mechanical property in high temperature and humidity circumstances and being able to efficiently plugged together (see col. 1).

Response to Arguments and Amendment

Applicant's argument filed on 4/14/08 have been fully considered but they are not persuasive. Applicant asserts that Cartier, nor, Bouygues teach said optical fiber-inserting hole of the second ferrule is substantially the same diameter as the optical fiber-inserting hole of the first ferrule and is arranged opposingly to the first ferrule so that the optical fiber-inserting hole of the second ferrule is positioned coaxially with respect to the optical fiber-inserting hole of the first ferrule and that the Cartier's "bushing" is not a ferrule. The Examiner responds that such limitations as shown by the examiner in above figures and associated explanations, indeed are taught in which Caritier's teaching include as shown in at least fig. 1 and 2 and hat a ferrule is a supporting device that covers the optical fiber and that the item 3 of Cartier functions as a Ferrule covering the optical fiber and that as shown in at least fig. 1 Bougues teaches these limitations.

- Applicant is kindly advised to appropriately narrow the scope of the invention in order to allow the case.

THIS ACTION IS MADE FINAL

This action in response to applicant's amendment made FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing

date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is 571-272-2417. The examiner can normally be reached on 9:30-19:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/K. Cyrus Kianni/

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Primary Examiner, Art Unit 2883

July 27, 2008
